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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/874,371
Filing Date: June 06, 2001
Appellant(s): LEUPOLZ ET AL.

Vincent J. Sunderdick
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 4/8/05.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

This appeal involves claims 1-12 and 15-22.

Claims 13 and 14 have been canceled.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

A substantially correct copy of appealed claims 1-12 and 15-22 appears on pages 1-3 of the Appendix to the appellant's brief which is pages 7-9 of the brief. The minor errors are as follows: the cancelled claims 12 and 13 are not shown or noted.

(8) Evidence Relied Upon

No evidence is relied upon by the examiner in the rejection of the claims under appeal.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

Claims 1-3,15,17,18 and 20 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over USPN 6,391,400 to Russell et al. (herein after called 400).

Re claims 1, 18, and 20, 400 discloses applying a heat-reflecting coating with a low thermal emission coefficient (less than .5, as in column 2, at lines 11-24 and more specifically in lines 20-24) to an interior surface of a cabin of an aircraft, in lines 36-40 of column 1, the coating inherently providing improved radiation exchange with a passenger, at least for the reason that it is made of the same materials as the applicants and is coated in the same way. Also as stated in column 2 at lines 5-12 the coating is on interior glass to stop emission and trap heat. The examiner maintains that the glass as seen in column 6 at lines 56-60 is a single pane of glass or glazing with a thermal control film adhered to a face of it. This glass may be used in an aircraft as seen previously in the reference and therefore it is inherent that the glass have the film on the interior of an aircraft. All the previous may clearly be seen in the reference. However if it is taken that the film is not inherently on the interior of the glass in the aircraft, then it would have been obvious to one of ordinary skill in the art to have applied the film to interior of the glass because there are only 2 surfaces of the glass and one is on the inside and one on the outside. Knowing this one of ordinary skill would have been motivated to place the film one side then the other and use the film on the side which is most effective, through routine testing and

experimentation. Therefore the film would be placed on the inside of the glass for the properties and reasons as stated in the reference of stopping emission and trapping heat.

Re claims 2 and 3, 400 discloses that the coating is a transparent conductive coating of metal oxide, in lines 27-33 of column 21 and in lines 1-3 of the abstract.

Re claim 15, 400 discloses that the coating has a thermal emission coefficient of between .1 and .3, because it states that it is .15 in line 22 of column 2.

Re claim 17, 400 discloses that the interior surface of the airplane cabin comprises glazing and that the coating is on the glazing as seen in lines 19-24 of column 1. The glazing is taken as being the windows and windshield as stated in 400.

Claim Rejections - 35 USC § 103

Claims 4,5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over 400 as above and in view of USPN 6,178,034 to Allemand et al. (herein after called 034).

Re claim 5, 400 may not specifically disclose ITO or selecting a thickness to achieve a desired thermal emission coefficient, however 034 does disclose selecting a thickness of an ITO coating. Therefore it would have been obvious to

one of ordinary skill in the art to have applied the teachings of 034 into the device of 400 as above, so as to provide a coating that does not interfere with light transmission as taught in column 5 at lines 1-11. Further it would have been obvious to select a desired thermal emission coefficient, since it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex Parte Masham, 2 USPQ2d 1647 (1987).

Re claim 6, 400 does not disclose that the thickness of the coating is less than 1 micron, but 034 does disclose this at lines 5-8 of column 5. Therefore it would have been obvious to one of ordinary skill in the art to have applied the teachings of 034 into the device of 702 as above, so as to provide a coating that does not interfere with light transmission as taught in column 5 at lines 1-11.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over 400' as seen above in view of USPN 4,731,289 to Coleman (herein after called 289). 289 discloses that aircraft windows are made of PC and it is well known in the art that PMMA is an equivalent to PC. Therefore it would have been obvious to one of ordinary skill in the art to have used PMMA in place of PC for the well known advantages of PMMA, such as it being inexpensively bought under the name Plexiglas™. It is noted from the lack of arguments of these, that this is admitted in the previous actions.

Claims 7,16 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over 400 as applied above in view of USPN 5,976,702 (herein after called 702).

Re claims 7 and 21, 400 may not specifically disclose that the coating is on the interior of an aircraft window or that the window is plastic, however 702 does disclose that aircraft windows have the coating on them and it also discloses that aircraft interior surfaces of instrument panels have the coating on them. Therefore it would have been obvious to one of ordinary skill in the art to have applied the teachings of 702 with respect to the interior coating of instrument panels into the windows so as to keep them clean as is the reason for the instrument panel as seen in column 1 at lines 19-24. It is also old and well known in the art that aircraft windows can be made of PMMA and PC and therefore it would have been obvious to one of ordinary skill in the art to have made the windows out of these materials which are plastic so as to allow them to be durable and cheap to produce as well as light weight. It is also noted from the lack of arguments regarding the aircraft window materials that this is admitted in the previous actions.

Re claim 16, 400 may not disclose that the coating is applied to the lateral covering parts, however 702 discloses that the coating is applied to lateral covering parts in lines 19-24 of column 1. This is seen in the statement of the coating being applied to other articles. Therefore it would have been obvious to one of ordinary skill in the art to have applied the teachings of 702 into the device

of 400 as modified above so as to prevent and limit emission from the interior of the aircraft to the exterior as taught by 400.

Re claims 19 and 22, 400 may not disclose that the coating is applied to interior cabin walls however 702 discloses that the coating is applied to an interior cabin wall, in lines 19-24 of column 1, because the instrument panel is an interior cabin wall. Therefore it would have been obvious to one of ordinary skill in the art to have applied the teachings of 702 into the device of 400 as modified above so as to prevent and limit emission from the interior of the aircraft to the exterior as taught by 400.

Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over 400 in view of USPN 6,178,034 to Allemand et al. (herein after called 034).

Re claims 8 and 9, 400 may not disclose that the coating is applied to PMMA or PC or that windows are made of PMMA or of Polycarbonate (PC), however 034 does disclose that ITO coatings are applied to PMMA and PC in line 36 of column 14 and also in line 7 of column 4. Therefore it would have been obvious to one of ordinary skill in the art to have applied the coating to PMMA and PC for the reasons taught in 034. Also it is old and well known in the art that aircraft windows can be made of PMMA and PC and therefore it would have been obvious to one of ordinary skill in the art to have made the windows out of these materials so as to allow them to be durable and cheap to produce as well as light weight.

Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over 400 in view of USPN 6,092,915 to Rensch (herein after called 915).

Re claim 10, 400 as modified does not disclose that the interior of the aircraft has a decorative plastic foil or that the coating is applied to the foil, but 915 does disclose a plastic foil in an aircraft in lines 1-10 of column 3 and also in lines 39-43 of column 1. Therefore it would have been obvious to one of ordinary skill in the art to have applied the teachings of 915 into the device of 400 as modified above, so as to allow for the decrease in the emission of heat from the interior of the aircraft as taught by 400.

Re claims 11 and 12, 400 as modified may not disclose that the foil is made of PVF or PVDF however 915 does teach of PVF and PVDF, in lines 1-6 of column 3. Therefore it would have been obvious to one of ordinary skill in the art to have made the foil out of these materials so as to make the foil flexible and easy to manufacture as well as to make it durable and shield light sources from view as taught in 915 in the abstract while also keeping the surfaces clean as taught in lines 19-24 of column 1 of 400.

(10) Response to Argument

With respect to applicant's arguments that the 400 reference does not disclose the presently claimed invention. The examiner maintains that the glass as seen in

column 6 at lines 56-60 is a single pane of glass or glazing with a thermal control film adhered to a face of it. This glass may be used in an aircraft as seen previously in the reference and therefore it is inherent that the glass have the film on the interior of an aircraft. All the previous may clearly be seen in the reference. However if it is taken that the film is not inherently on the interior of the glass in the aircraft, then it would have been obvious to one of ordinary skill in the art to have applied the film to interior of the glass because there are only 2 surfaces of the glass and one is on the inside and one on the outside. Knowing this one of ordinary skill would have been motivated to place the film one side then the other and use the film on the side which is most effective, through routine testing and experimentation. Therefore the film would be placed on the inside of the glass for the properties and reasons as stated in the reference of stopping emission and trapping heat. This can at least be seen in that at least in the abstract the reference states that the film is a transparent heat reflective thermal control film. This means that if the film is on an interior surface of the craft, it will reflect heat, which the examiner considers "trapping heat" and "stopping emission". Also though the applicant appears to argue that the presently claimed invention is different from the 400 reference, it is maintained that they are made of the same material and used on the same surfaces and therefore they are the same in structure and the prior art 400 therefore reads on the invention as claimed.

While the examiner notes that the applicant provides separate headings for each of the dependent claims the applicant does not specifically argue what features found in those claims patentably distinguishes such claim limitations from the prior art of record.

Therefore claims 2-12 and 15 are not separately argued as per 37 CFR 41.37 (c) (1) (vii).

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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Patent Examiner

Art Unit 3643

Conferees:

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RPS RPS

TDC

PETER M. POON
SUPERVISORY PATENT EXAMINER

c/10/05